Medication adherence during and after pregnancy among women at risk for gestational hypertensive disorders

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Introduction

The risk of developing early-onset preeclampsia can be reduced through the use of low-dose aspirin initiated at 16 weeks of gestation. However, no recent data were available on medication adherence among women at risk for gestational hypertensive disorders (GHD). This study aimed to evaluate medication adherence in this high-risk pregnant population, and to explore the relationship between adherence and pregnancy and neonatal outcomes.

Methods

A longitudinal cohort was established from the prospective Pregnancy REmote MOnitoring (PREMOM II) RCT conducted in Belgium, which evaluated the role of remote monitoring in the management of pregnant women at increased risk for GHD. Participants assigned to the remote monitoring group were included, all of whom initiated 160 mg aspirin per day <16 weeks. Adherence was assessed using: 1) the Probabilistic Medication Adherence Scale (ProMAS) administered during pregnancy (at inclusion), at 10–21 days and 4–6 months postpartum; 2) self-registrations via the MediSafe app (medication logged as taken, missed or skipped). If no entry was recorded, default classication was missed. The "minimal" aspirin intake was calculated as the number of 'taken' entries divided by the total entries (taken + skipped + missed). The "maximal" aspirin intake was calculated as the number of 'taken' entries divided by the sum of taken+skipped entries. We did not intervene throughout the study.

Results

A total of 73 participants were included at a median gestational age of 14.1 weeks (IQR:13.2–15.6). The mean maternal age was 30.5 ± 5.3 years, with a mean pre-gestational BMI of 29.1 ± 5.7 kg/m^2. At inclusion, 9.6 % were smokers, 23.3 % had pre-existing medical conditions, and 15.1 % was multiparous and had complications during previous pregnancies. The average ProMAS score in pregnancy was

10.3 ± 3.9 out of 18, with their overall adherence categorized as follows: 6.6 % non-adherent, 37.7 % medium-low adherent, 36.1 % medium-high adherent, and 19.7 % highly adherent. Similar rates were observed at 10–21 days postpartum, while at 4–6 months postpartum, there was a trend toward lower adherence (mean score 8.9 ± 4.5). The mean "minimal" and "maximal" self-reported aspirin intake in pregnancy was 82.5 % (min-max: 4.2–100.0 %) and 98.6 % (min-max: 79.4–100.0 %), with 97.0 % achieving a "maximal aspirin intake" level of $\geq$90 %. A positive correlation was noted between pregnancy ProMAS scores and "maximal" self-reported aspirin intake ($r = 0.297$, $p = 0.028$). Women with uncomplicated pregnancies showed higher ProMAS scores during pregnancy (10.9 ± 3.5), compared to those with complicated pregnancies (8.9 ± 4.1).

Conclusions

Despite previously reported suboptimal levels of aspirin adherence in pregnancy, the self-reported adherence to aspirin use in pregnancy among women at risk for GHD involved in this RCT was very high. However, more research is needed to provide real-world adherence estimates in pregnancy, as well as on the predictive utility of the ProMAS instrument to forecast adherence and adverse pregnancy and neonatal outcomes.